AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

LISTING OF CLAIMS

Claim 1 (Currently Amended): A method of preventing a mine vehicle from colliding, the mine vehicle comprising at least: a movable carrier that is driven in a first movement direction and in a second movement direction, at least one scanner, and a control system including at least a first control unit arranged on the carrier; the method comprising:

determining for the mine vehicle at least one safe area provided within an area between minimum distances and maximum distances determined with respect to the vehicle;

scanning the environment in front of the vehicle when driving the vehicle in one movement direction;

carrying out a first collision examination wherein the safe area in front of the vehicle is monitored, and issuing a collision warning message if an obstacle is detected within the safe area ,

determining also at least one sideward safe area for the vehicle,

determining an obstacle-free route on the basis of the forward scanning results, and determining points in a sideward direction of the vehicle to restrict the route;

forming memory points on the basis of coordinates of the points restricting the route, and storing the memory points in the control system,

and carrying out a second collision examination wherein at least one sideward

safe area of the vehicle is monitored, and issuing a collision warning message if even one of the

memory points resides within the safe area being monitored.

Claim 2 (Previously Presented): A method as claimed in claim 1, comprising

simulating in advance, on the basis of position and control data, the path of

movement of at least one part of the vehicle in the control system,

carrying out the second collision examination by taking into account the path of

movement obtained by simulation,

and adjusting, on the basis of the second collision examination, steering

movements of the vehicle in order to avoid overstepping the sideward safe area.

Claim 3 (Previously Presented): A method as claimed in claim 1, comprising storing

substantially continuously the memory points in a ring buffer provided in the control system,

and updating for the second collision examination the memory points in a ring

memory with respect to the movement of the vehicle.

Claim 4 (Previously Presented): A method as claimed in claim 1, comprising

controlling the vehicle unmannedly,

and utilizing for such control a data transmission connection provided between

the first control unit residing on the carrier of the vehicle and a second, external control unit.

Claim 5 (Previously Presented): A method as claimed in claim 1, comprising

updating dimensions of at least one safe area on the basis of the location of the

mine vehicle.

Claim 6 (Currently Amended): A mine vehicle comprising at least:

a movable carrier that is driven in a first movement direction and in a second

movement direction,

at least one scanner,

a control system including at least a first control unit arranged on the carrier;

and wherein

at least one scanner is configured to scan the environment in front of the vehicle

in order to detect obstacles;

at least one safe area defined by minimum distances and maximum distances

determined with respect to the vehicle is determined in the control system;

and which control system is configured to monitor scanning results and to issue a

collision warning message if an obstacle is detected within the safe area in front of the vehicle,

and wherein

in the control system, at least one safe area in a sideward direction of the vehicle

is further determined,

the control system allows several memory points including their position

information to be stored therein the memory points defining sideward points of the route and

based on the forward scanning results,

and the control system is configured to monitor at least one sideward safe area of the vehicle and to issue a collision warning message if even one of the memory points resides within the safe area being monitored.

Claim 7 (Previously Presented): A mine vehicle as claimed in claim 6, wherein

the mine vehicle comprises a first laser scanner directed in a first movement direction and a second laser scanner directed in a second movement direction,

and wherein each movement direction is provided with a safe area of its own.

Claim 8 (Previously Presented): A mine vehicle as claimed in claim 6, wherein

the minimum distances of the safe area are determined according to the external shape and structure of the mine vehicle.

Claim 9 (Previously Presented): A mine vehicle as claimed in claim 6, wherein

the mine vehicle is unmanned,

and wherein the first control unit is through a data transmission connection connected to a second, external control unit in order to transfer control data between the control units.

Claim 10 (Previously Presented): A mine vehicle as claimed in claim 6, wherein the control system is configured to update at least one safe area on the basis of the location of the mine vehicle.

Claim 11 (New): A method of preventing a mine vehicle from colliding, the mine vehicle comprising at least: a movable carrier that is driven in a first movement direction and in a second movement direction, at least one scanner, and a control system including at least a first control unit arranged on the carrier; the method comprising:

determining for the mine vehicle at least one safe area provided within an area between minimum distances and maximum distances determined with respect to the vehicle;

scanning the environment in front of the vehicle when driving the vehicle in one movement direction;

carrying out a first collision examination wherein the safe area in front of the vehicle is monitored, and issuing a collision warning message if an obstacle is detected within the safe area ,

determining also at least one sideward safe area for the vehicle,
determining an obstacle-free route on the basis of the forward scanning results, and determining points in a sideward direction of the vehicle to restrict the route;

forming memory points on the basis of coordinates of the points restricting the route, and storing the memory points in the control system,

and carrying out a second collision examination wherein at least one sideward safe area of the vehicle is monitored, and issuing a collision warning message if even one of the memory points resides within the safe area being monitored, and wherein the mine vehicle is stopped when the collision warning message is issued.

Claim 12 (New): A mine vehicle comprising at least:

a movable carrier that is driven in a first movement direction and in a second movement direction,

at least one scanner,

a control system including at least a first control unit arranged on the carrier;

and wherein

at least one scanner is configured to scan the environment in front of the vehicle in order to detect obstacles;

at least one safe area defined by minimum distances and maximum distances determined with respect to the vehicle is determined in the control system;

and which control system is configured to monitor scanning results and to issue a collision warning message if an obstacle is detected within the safe area in front of the vehicle,

and wherein

in the control system, at least one safe area in a sideward direction of the vehicle is further determined,

the control system allows several memory points including their position information to be stored therein the memory points defining sideward points of the route and based on the forward scanning results,

and the control system is configured to monitor at least one sideward safe area of the vehicle and to issue a collision warning message and to stop the mine vehicle if even one of the memory points resides within the safe area being monitored.